



A Multilevel Regression Analysis of Health Systems Governance and Diagnostic Optimisation in Senegalese Community Health Centres

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ABSTRACT

Background: Weak governance structures in community health centres can impede the adoption of essential diagnostic protocols, undermining health system performance. In Senegal, decentralised management of these centres presents a critical but understudied governance challenge affecting clinical practice.

Purpose and objectives: This study aimed to quantify the influence of specific health systems governance factors—financial autonomy, supervisory regularity, and supply chain integrity—on the adoption rate of WHO-recommended diagnostic algorithms for common febrile illnesses.

Keywords: *Health systems governance, Diagnostic optimisation, Community health centres, Sub-Saharan Africa, Multilevel regression analysis, Decentralisation, Senegal*

Article Highlights

- Multilevel regression isolates centre-level governance effects from individual health worker factors.
- Supply chain integrity shows strongest association with diagnostic algorithm adherence.
- Financial autonomy in decentralised management demonstrates non-significant impact.
- Supervisory regularity requires integration with specific clinical protocols to be effective.

Methodological Note

The analysis employs a two-level logistic regression model with centre random effects, allowing separation of governance-level influences from individual health worker characteristics.

This analysis quantifies how specific governance mechanisms affect frontline clinical practice.

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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